March 12, 1997

John Columbia
Contracting Officer
U.S. Department of Energy
Federal Energy Technology Center
626 Cochrans Mill Road
P.O. Box 10940
Pittsburgh, PA 15236-0940

Dear Mr. Columbia:

This letter contains the final report for the "Studies of Low Rank Coal Stabilities" project (Interagency Agreement, IA No. DE-AI22-94PC94651 between DOE and NIOSH). We look forward to continuing work with you in this area of mutual interest.

Sincerely,

Michael J. Sapko
Research Supervisor
Fires, Explosions, and Explosives

Enclosure

Studies of Low Rank Coal Stabilities
Interagency Agreement
IA No. DE-AI22-94PC94651

Final Report

The National Institutute for Occupational Safety and Health (NIOSH), Pittsburgh Research Center, tested feed coal and product samples from Wyoming and Montana for thermal stability in the adiabatic oven and sealed flask apparatus. The results indicated that the products had higher thermal stabilities in comparison with the feed coals. However, both the product samples and feed coals exhibited high spontaneous combustion potentials. A report on these studies was submitted in December 1995.

Experiments were also completed in the adiabatic oven to determine the rate of decrease in the heating rate of a reactive sample on exposure to pulses of moist air, dry air, and moist nitrogen. The results indicated that with each succeeding pulse, longer times were required to reach selected elevated temperatures. The results also indicated some level of synergy between water and oxygen in the heat generation reaction. The data and results were transmitted to Dr. Dennis Finseth upon completion of the experiments.

bcc:
MJSapko
CPLazzara
ASmith
PABruni